

CLAIMS

What is claimed is:

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1. A motor having a housing, a drive shaft rotatable relative to the housing, and a brake coupled to the shaft, the brake comprising:

a support affixed to one end of the motor drive shaft, wherein the support rotates generally uniformly with the drive shaft when the drive shaft is rotated;

10 a first brake shoe hingedly mounted to the support, the first brake shoe comprising a first brake shoe brake pad;

a first spring biasing the first brake pad against the housing when rotation of the drive shaft is below a minimum rotational velocity;

15 further wherein the first brake shoe brake pad disengages from the housing when rotation of the drive shaft exceeds the minimum rotational velocity.

2. The motor of Claim 1 wherein the first brake shoe further comprises:

a first brake shoe bracket having a flyweight and a hinge tab; and

20 wherein the first brake shoe brake pad is mounted between the flyweight and the hinge tab.

3. The motor of Claim 1 wherein the first brake shoe further comprises:

a first brake shoe bracket having a flyweight and a hinge tab; and

wherein the first brake shoe brake pad is mounted to the flyweight.

5 4. The motor of Claim 1 wherein the brake further comprises a second brake shoe hingedly mounted to the support, the second brake shoe comprising a second brake shoe brake pad;

wherein the first and second brake shoes are on opposite sides of the support;

10 further wherein the first spring connects the first brake shoe to the second brake shoe and biases the first and second brake pads into frictional engagement against the housing when rotation of the drive shaft is below the minimum rotational velocity.

15 5. The motor of Claim 4 wherein the support comprises a hub and a pair of C brackets on opposite sides of the hub and further wherein a hinge tab of each brake shoe engages one of the C brackets to secure the brake shoe to the hub while permitting limited arcuate displacement of a flyweight on each brake shoe.

20 6. The motor of Claim 4 wherein the brake further comprises a second spring connecting the first and second brake shoes and biasing the first and second brake pads against the housing when rotation of the drive shaft is below the minimum rotational velocity.

7. The motor of Claim 1 further comprising means for mounting the brake to the motor drive shaft.

8. A motor brake comprising:

5 a support comprising a mounting hub;

a first brake shoe hingedly mounted to the support, the first brake shoe comprising a first brake shoe brake pad;

a second brake shoe hingedly mounted to the support, the second brake shoe comprising a second brake shoe brake pad;

10 a first spring connecting the first and second brake shoes, the first spring biasing the first brake shoe brake pad toward the second brake shoe brake pad when rotation of the drive shaft is below a minimum rotational velocity;

a second spring connecting the first and second brake shoes, the second spring biasing the first brake shoe brake pad toward the second brake shoe brake pad when  
15 rotation of the drive shaft is below a minimum rotational velocity;

further wherein the biasing of the first brake shoe brake pad toward the second brake shoe brake pad is overcome by centrifugal force when rotation of the drive shaft exceeds the minimum rotational velocity.

20 9. The brake of Claim 8 wherein the first brake shoe comprises:

a hinge tab for hingedly mounting the first brake shoe to the support, and

a flyweight;

wherein the first brake shoe brake pad is mounted between the hinge tab and the

flyweight; and

further wherein the second brake shoe comprises:

a hinge tab for hingedly mounting the second brake shoe to the support, and

a flyweight;

5 wherein the second brake shoe brake pad is mounted between the hinge tab and the flyweight.

10. The brake of Claim 8 wherein the first brake shoe comprises:

a hinge tab for hingedly mounting the first brake shoe to the support, and

10 a flyweight;

wherein the first brake shoe brake pad is mounted to the flyweight; and

further wherein the second brake shoe comprises:

a hinge tab for hingedly mounting the second brake shoe to the support, and

a flyweight;

15 wherein the second brake shoe brake pad is mounted to the flyweight.

11. A motor brake comprising:

a support having motor drive shaft mounting means;

a first brake shoe hingedly mounted to the support, the first brake shoe comprising

20 a first brake shoe brake pad;

a second brake shoe hingedly mounted to the support, the second brake shoe comprising a second brake shoe brake pad;

means for biasing the first brake shoe brake pad toward the second brake shoe brake pad when rotation of the drive shaft is below a minimum rotational velocity;

further wherein the biasing of the first brake shoe brake pad toward the second brake shoe brake pad is overcome by centrifugal force when rotation of the drive shaft  
5 exceeds the minimum rotational velocity.

12. The brake of Claim 11 wherein the biasing means comprises a spring connecting the first and second brake shoes, the spring biasing the first brake shoe brake pad toward the second brake shoe brake pad when rotation of the drive shaft is below a minimum  
10 rotational velocity.

13. The brake of Claim 11 wherein the first brake shoe comprises:  
a hinge tab for hingedly mounting the first brake shoe to the support, and  
a flyweight;  
15 wherein the first brake shoe brake pad is mounted between the hinge tab and the flyweight; and

further wherein the second brake shoe comprises:  
a hinge tab for hingedly mounting the second brake shoe to the support, and  
a flyweight;  
20 wherein the second brake shoe brake pad is mounted between the hinge tab and the flyweight.

14. The brake of Claim 13 wherein the first brake shoe is hingedly mounted to a first C bracket on the support;

further wherein the second brake shoe is hingedly mounted to a second C bracket on the support; and

5 further wherein the first C bracket is on the opposite side of the support from the second C bracket.

15. The brake of Claim 11 wherein the mounting means comprises at least one of the following:

10 a setscrew,

a shaft key,

a spline,

a double-D shaft mounting hole,

a D-shaped shaft mounting hole,

15 press fitting,

welding,

soldering,

gluing and clamping, or

a locking pin.

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16. The brake of Claim 11 wherein the first brake shoe comprises:

a hinge tab for hingedly mounting the first brake shoe to the support, and

a flyweight;

wherein the first brake shoe brake pad is mounted to the flyweight; and

5 further wherein the second brake shoe comprises:

a hinge tab for hingedly mounting the second brake shoe to the support, and

a flyweight;

wherein the second brake shoe brake pad is mounted to the flyweight.

10 17. The brake of Claim 16 wherein the first brake shoe is hingedly mounted to a first

C bracket on the support;

further wherein the second brake shoe is hingedly mounted to a second C bracket  
on the support; and

further wherein the first C bracket is on the opposite side of the support from the  
15 second C bracket.

18. The brake of Claim 11 wherein the springs and brake shoes are molded together  
as a complete unit.